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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,072	07/30/2001	Kevin Duprey	DCL1888/M4958	2560

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Mr. Barry D. Josephs
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EXAMINER


WILLS, MONIQUE M

ART UNIT PAPER NUMBER

1746

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/918,072	Applicant(s) DUPREY ET AL. 	
	Examiner Wills M Monique	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/3/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Specifically, U.S. Patents 5,532,081 and 4,537,841 have not been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 & 22-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sargeant et al. U.S. Patent 6,127,062 in view of Bowsky et al. U.S. Patent 4,803,136.

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Claims 1, 8, 25 & 33 are taught by Seargent, in Figure 3, where it illustrates an electrochemical cell comprising: an open ended cylindrical housing (77); an end cap assembly (10) inserted therein closing said housing; said end cap assembly (10) comprising a support disk (40) comprising metal (col. 7, lines 35-40) and an underlying electrically insulating sealing disk (20) when the cell is viewed in vertical position with the end cap assembly on top; wherein said support disk (40) has a downwardly extended surface(26); said downwardly extended surface (26) extending downwardly from a high point thereon to low point thereon ; said downwardly extended surface (26) being slanted so that said high point is closer to the cell's central longitudinal axis than said low point when viewed in vertical position with the end cap assembly; said downwardly extended surface (26) is not parallel to the central longitudinal axis; said downwardly extended surface (26) has at least one aperture (48) therethrough; wherein said sealing disk (20) has a downwardly extending wall (26) abutting said downwardly extended surface (26) of said support disk (20) on the side thereof facing the cell interior. As to claims 2,14,15 & 32, the reference illustrates in Fig. 3, that said downwardly extended surface of said support disk (40) is slanted at an angle between 40 and 80 degrees from the cell's central longitudinal axis. Regarding claim 16, Sargeant teaches that the downwardly extending surface (45) of support disk (40) is slanted from the cell's central longitudinal axis at the same angle as said downwardly extending surface (26) of the insulating sealing disk (20) (see Fig. 3). As to claims 13 and 31, the reference illustrates that the insulating disk (20) contacts the support disk (40) in the region of a surface of said support disk (40) immediately adjacent said

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aperture (see Fig. 3). With respect to claim 18, the end cap assembly further comprises an insulating washer 130 over the support disk (40) and a terminal end cap 120 over said washer 130 (Fig. 4 & column 8, lines 45-60). Concerning claims 4,5 and 28, the portion of downwardly extending wall (26) of said sealing disk (20) immediately adjacent the rupturable membrane (23) may have a thickness greater than said rupturable membrane (23) (col. 5, lines 60-68 and col. 6, lines 1-10). Regarding claims 19 & 23, the support disk (40) has a peripheral outer edge (49) and a substantially flat central portion (42), wherein said central portion (42) is at a right angle to the cell's central longitudinal axis and said downwardly extending surface (45) of the support disk (40) extends downwardly from said central portion to said peripheral outer edge (See Fig. 3 and col. 5, lines 10-35). As to instant claim 24, the peripheral outer edge (49) of support disk (40) bites into the peripheral edge (28) of the sealing disk (20) and exerts radial compressive forces on said sealing disk (20) (see Fig. 3 and col. 8, lines 1-15). With respect to claims 6 & 35, the thickness of rupturable membrane (23) is 0.3mm to 0.80mm (col. 6, lines 10-20). Concerning instant claim 7, the reference teaches that the aperture (48) in support disk (40) has an area between 3 and 50 mm² (col. 6, lines 10-15). With respect to claim 22, the support disk may have a pair of opposing apertures in the downwardly extending surface of said disk (col. 6, lines 50-60).

Sargeant is silent to: a groove formed on the rupturable membrane (claims 1,8 & 25); thickness ratio of the rupturable membrane to the groove being less than 1/2 (claims 4,5 & 28); the groove circumventing the center of the sealing disk (claims 9 & 26); the groove having a width to thickness ratio of between 2.5 and 12.5mm (claims 10

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& 27); the insulating disk surface having a width between about 0.1 and 1mm (claim 11); the housing having a wall thickness between 4 and 8 mils (claims 3, 12 & 30); the groove having a thickness between about 0.08 and 0.15mm (claims 17 & 29); and the method of making said groove (claim 34).

Bowsky teaches forming a groove in a rupturable member in order to control uniformity in pressure sensitivity and obtain thorough rupture responsitivity without initial minor breaks or fractures (col. 3, lines 66-68; col. 4, lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to employ the groove of Bowsky in the membrane of Sargeant, in order to control pressure sensitivity and obtain thorough rupture responsitivity without initial minor breaks or fractures. Regarding claims 9 and 26, employing the groove of Bowsky in the sealing disk of Sargent would result in the groove circumventing the center of the sealing disk, as Bowsky teaches that the groove surrounds the central area of the rupturable disk (col. 6, lines 45-55, Fig. 3).

With respect to claims 3,4,5, 10, 11, 12, 17, 19, 27, 28 & 30, these limitations require modifying the thickness and/or width of the groove, housing, insulating disk or membrane, Sargeant suggests that the size of the components may be adjusted depending on the materials employed and level of gas pressure at which rupture is intended (col. 6, lines 45-55). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thickness and/or width of the groove, housing, insulating disk or rupturable membrane, depending

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on the materials employed and level of gas pressure at which rupture is intended.

Stated differently, such modifications would have involved merely changing the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPT 237 (CCPA 1955).

As to instant claim 34, the presence of process limitations in product claims, where the product does not otherwise patentably distinguish over prior art, cannot impart patentability to the product. In re Stephens 145 USPQ (CCPA 1965). In the instant case, the method of making the groove is immaterial, because the combination of references results in the same product as the subject invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sargeant et al. U.S. Patent 6,127,062 in view of Bowsky et al. U.S. Patent 4,803,136 as applied to claim 8 above, and further in view of Urry U.S. Patent 6,333,1276.

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Sargeant in view of Bowsky teach an end cap assembly as described hereinabove. Including Sargeant's teaching that the current collector is attached to the support disk and end cap via pressure bonding (col. 5, lines 1-11).

Sargeant is silent to welding the current collector to the support disk and end cap.

Urry teaches the equivalence of pressure bonding and welding, with respect to contacting the current collector to an end cap assembly (col. 3, lines 30-40).

Therefore, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though Sargeant does not teach welding the current collector to the end cap assembly, Urry teaches that welding and pressure bonding are art recognized equivalent material for contacting current collectors to end cap assemblies in batteries, and therefore, one having ordinary skill in the art would have substituted one bonding process for another.

Conclusions

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

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If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Randy Gulakowski, may be reached at 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mw

02/04/04

Bruce Bell
BRUCE F. BELL
PRIMARY EXAMINER
GROUP 1746